The software installation procedure for REALmagic Xcard is described below. Follow the directions carefully to help ensure proper operation.

Software Installation for Windows 98SE/Me/2000/XP

1. After installing REALmagic Xcard and making all appropriate hardware connections, turn on the power to your computer.
2. When the **New Hardware Found** message appears, choose the option *Driver from disk provided by hardware manufacturer* and then click *OK*.
3. The **Install From Disk** dialog appears. Insert the REALmagic Xcard CD into your CD- or DVD-ROM drive.

IF A FLOPPY DISK WAS PROVIDED WITH YOUR REMOTE CONTROL, DO NOT USE IT TO INSTALL SOFTWARE ON YOUR PC.

USE ONLY THE REALmagic Xcard CD-ROM. If the software on the floppy disk has been installed, uninstall it and reinstall the software provided on the CD-ROM.

4. Make sure the dialog specifies the correct disk drive letter (for example, D:\ ) and location (use the Browse dialog), and click *OK* to install the appropriate drivers and software for the REALmagic Xcard to your hard disk. For example, installing to Windows 98SE will use the driver location D:\Win9x_Me.
5. When the installation is complete, the Windows desktop will appear.
6. Run the **REALmagic Xcard Setup** program under D:\Win9x_Me\Apps\Disk1\ (where D: is the CD-ROM drive letter). The **Welcome** dialog box appears.
7. Click the *Next* button. The **REALmagic Xcard Setup** dialog appears.
8. Click on the *Install the REALmagic applications* radio button (default) and then *OK*. The **Remote Control Serial Port Selection** dialog appears.
9. Click on the *COM2* radio button (or *COM1*, *COM3*, or *COM4*, depending on how your remote control is connected to the computer) and then click *Next*. The **Choose Destination Location** dialog appears.
10. Click *Next* unless you wish to specify an alternative destination folder in which to install files. To specify an alternative destination, click *Browse*, and navigate to the desired folder and then click *Next*.
11. REALmagic Setup installs the program files. When installation is completed, the **Setup Complete** dialog appears. Click *Finish*.

Setting and Changing the DVD Region Code

Use the setup program to change the DVD region code of the board if you relocate to a different region and want to play DVDs from the new region. **The region code may only be changed five times.**

(REALmagic Xcard does not require region code set up when using a DVD-ROM drive carrying the region code (RPC2 drive).)

Follow these instructions to set and change the DVD region code:

1. Run the **REALmagic Xcard Setup** program. The **Welcome** dialog appears.
2. After exiting all other programs, click the *Next* button. The **REALmagic Xcard Setup** dialog appears.
3. Click on the *Change the DVD Region Code* radio button and click *OK*.
4. Select the DVD region code to the region of the DVD to be viewed. Follow the on-screen instructions to complete region code set-up.

DVD Region Codes

Regionalization and Copy Protection (DVD Region Code) uses the Content Scramble System (CSS) standard to prevent unauthorized duplication of the intellectual property distributed on DVDs. The Motion Picture Association of America (MPAA) originally requested it to address video piracy, but it is applicable to any content. CSS inhibits the transmission of unencrypted data over the PCI bus. Playback systems must license CSS to decode the encrypted data.

The CSS specification divides the world into six unique regions. Content designated for one region can only be played by systems of that region.

While CSS is used to prevent digital copies of the DVD content, another technology, Macrovision, was devised to prevent analog copies of DVD content. Macrovision is a scrambling system widely used by the movie industry to prevent unauthorized duplication of video content using commercial VCRs. DVD playback systems must support both CSS and Macrovision copy protection standards.

Warranty Coverage

Sigma Designs warrants its products to be free from defects in material and workmanship during the warranty period. If a products proves to be defective in material or workmanship during the warranty period, Sigma Designs will at its sole option repair or replace the product with a like product. Replacement product or parts may include remanufactured or refurbished parts or components.

Warranty Duration

The Sigma Designs REALmagic Xcard is warranted for one (1) year for all parts and labor from the date of the original purchase.

Warranty Validity

This warranty is valid only for the original purchaser.

Warranty Limitations

There are no warranties, express or implied, which extend beyond the description contained herein including the implied warranty of merchantability and fitness for a particular purpose.

Warranty Exclusions

Sigma Designs' liability is limted to the cost of repair or replacement of the product. Sigma Designs shall not be liable for:

1. Damage to other property cause by any defects in the product, damages based upon inconvenience, loss of use of the product, loss of time, loss of profits, loss of business opportunity, loss of goodwill, interference with business relationships, or other commercial loss, even if advised of the possibility of such damages.
2. Any other damages, whether incidental, consequential, or otherwise.
3. Any claim against the customer by any other party.

Package Contents

- Quickstart hardcopy
- Board
- CD
  - User's Guide and Quickstart PDF
  - Driver
  - Application
  - Adobe® Acrobat® Reader
- Cables
  - Component video adapter
  - S-Video to Composite video adapter
  - VGA pass-through
  - Audio adapter to sound card (mini-jack to mini-jack)
  - Audio adapter cable (mini-jack to L/R RCA connector)
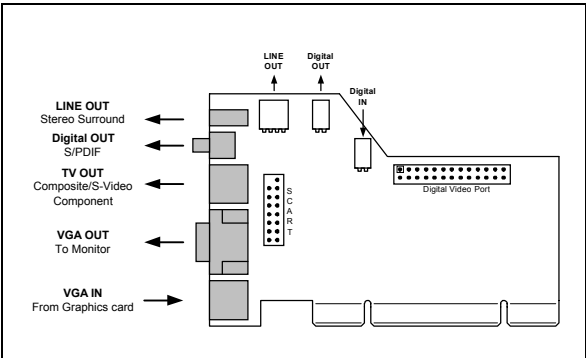 - Composite video cable

Figure 1. REALmagic Xcard

Preparations and Precautions

Static electricity can damage your equipment!!
Do not remove the board from its protective anti-static bag until you are ready to install it.

- Before opening the protective anti-static bag, touch the bag to one of the metal expansion slot covers on the back of your computer to drain residual static electricity from the package and from your body. Anyone else handling the board should follow this procedure.
- Do not touch, or allow anyone else to touch, any exposed printed circuitry on the REALmagic Xcard board.
- Limit your movement. Movement builds up static electricity.

Hardware Installation

1. Turn off the power to the computer and to the VGA monitor. Unplug (disconnect) the power cord from the computer.

2. Disconnect the VGA monitor cable from your PC.

3. Remove the cover from the computer. (Refer to your PC user's manual for specific instructions.)

4. Locate an available PCI expansion slot. (REALmagic Xcard requires a bus-mastered PCI slot. Most PCI slots support PCI bus mastering, but if you experience difficulties with your REALmagic Xcard, try installing the card in a different PCI slot. REALmagic Xcard is not ISA compatible.)

5. Remove and set aside the slot cover screw and slot cover, if applicable.

6. Open the protective sleeve containing REALmagic Xcard, grasp the circuit board by the edge of its mounting bracket, and remove it from the protective sleeve.

7. Insert REALmagic Xcard into the PCI expansion slot. Press down gently on the top edges of the board to ensure that all connecting points are seated securely. Anchor the board's mounting bracket using the screw removed in Step 5. (If you install a DVD-ROM drive at the same time as the REALmagic Xcard, remember to attach the CD-Audio cable from the DVD-ROM drive to your sound card. Otherwise, CD-Audio titles will not be audible when played in the DVD-ROM drive. DVD-ROM audio will be audible whether or not the CD-Audio cable is attached.)

8. Replace the cover of your PC and reconnect the power cord.

Hardware Connections

Audio Connections

Dolby Pro Logic Surround Sound

LINE OUT   Connect your Dolby Pro Logic Surround Sound receiver to the Line Out port on the REALmagic Xcard using the audio mini-jack to L/R audio RCA connector adapter for Dolby Pro Logic Surround Sound output.

Dolby® Digital Surround Sound

DIGITAL OUT   Connect your Dolby Digital Surround Sound receiver and speaker system to the orange Digital Out (S/PDIF port) on REALmagic Xcard. To use this connection method, your receiver must have a coaxial S/PDIF input.

REALmagic Xcard has a standard 1/8-inch (3.5mm) stereo output port as well as a Digital Out (S/PDIF) connector. The stereo output port delivers a standard analog stereo signal usable by virtually any stereo amplifier/receiver or amplified speakers. This signal also contains Dolby Pro Logic Surround Sound encoding, enabling surround sound when using a Dolby Pro Logic receiver. You can use a single set of speakers to listen to both MPEG-2 audio as well as other types of audio from the REALmagic Xcard. Use either the Windows mixer program or your AV receiver for volume control only when the audio patch cable is present.

TV/VGA Monitor Connections

(This connection does not pass audio to the TV. For proper audio connections, see User's Guide, "Audio Connections".)

To connect REALmagic Xcard to a TV:

TV OUT   Connect REALmagic Xcard directly to a TV using an S-Video cable (not included) through the S-Video connector, OR — if your television does not support S-Video — using the S-Video to composite video adapter cable through the Composite Video output connector (Figure 2). In the latter case, connect the composite video adapter cable to the TV using the provided composite video cable. (For best playback quality when connecting theREALmagic Xcard to a TV, connect it directly to the TV, rather than to the TV via a VCR.)
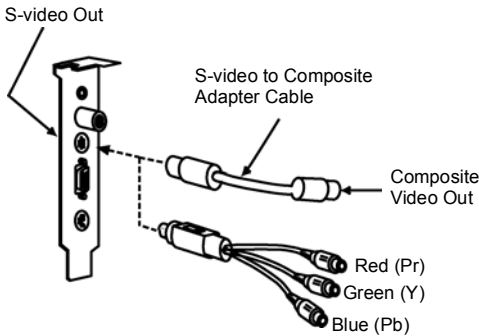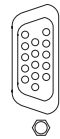

Figure 2. TV Connections

To connect REALmagic Xcard to a VGA monitor:

VGA IN   Connect REALmagic Xcard directly to the VGA card using the provided pass-through cable to the VGA In port, and a standard 9-pin DIN to DB-15 VGA cable to the VGA monitor through the VGA Out port.

1. Attach the round 9-pin DIN connector of the provided External VGA Pass-Through Cable to REALmagic Xcard's VGA In connector (Figure 3).

2. Attach the other end (15-pin "D" shape) of the cable to the output port on your VGA card or your PC's VGA output port.

3. Connect the VGA cable from your VGA monitor to the VGA Out of REALmagic Xcard.
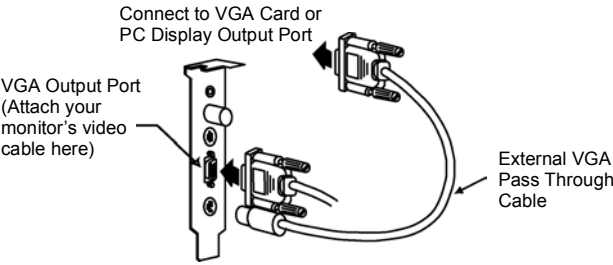
Figure 3. VGA Monitor Connection

While composite video is more common and works with most televisions, S-Video provides better picture quality. REALmagic Xcard connects directly to a S-Video capable TV using a standard 4-pin S-Video cable which fits in the 7-pin DIN.

The supplied component video adapter allows the display of NTSC and PAL video in the component RGB and YPbPr formats. For copy protected DVD titles, YPbPr output is limited to 480p. RGB is also available with an optional European Scart connector (available through special-order from Sigma Designs via www.buyrealmagic.com). Use a software utility to switch between RGB and YPbPr modes (See User's Guide).

REALmagic Xcard can be simultaneously physically connected to *both* a VGA monitor and a TV using the VGA Out port and the S-Video or Composite Video out port, respectively.

Advanced Connections

The REALmagic Xcard package includes connectors that allow you to pass MPEG audio through to the internal CD Audio In connector on your sound card.

Attach a cable from the REALmagic Xcard's internal Line Out port to the CD Audio In connector on your sound card. (See Figure 1 for connector locations.)

The signal from the Line Out port combines the CD Audio In signal from the CD-ROM or DVD-ROM drive with the same signal that is output through the Stereo Output port on REALmagic Xcard. This solution eliminates the external audio cable that normally goes from REALmagic Xcard to your sound card.

To obtain an audio sound signal when using this solution, attach your receiver or amplified speakers to the Line Out port of your sound card. With this solution, the volume for both CD audio and MPEG audio are controlled by the CD Audio portion of your mixer.

Note: To pass digital audio directly through the REALmagic Xcard, attach a cable from the DVD-ROM or CD-ROM digital output to the S/PDIF In of the REALmagic Xcard. Then connect the S/PDIF Out of the REALmagic Xcard to the external receiver.